

NIH SPECIFICATION
Open Formula Rat and Mouse Diet - 18% Crude Protein
Autoclavable (NIH-31)

NSN 8710-01-005-8438

INGREDIENTS

Ingredients	Percentage by Weight
Fish meal (60% protein)	9.0
Soybean meal (48.5% protein)	5.0
Alfalfa meal (17% protein)	2.0
Corn gluten meal (60% protein)	2.0
Ground whole hard wheat	35.5
Ground #2 yellow shelled corn (8.5% protein)	21.0
Ground whole oats	10.0
Wheat middlings	10.0
Brewers dried yeast	1.0
Soy oil	1.5
Salt	.5
Dicalcium phosphate	1.5
Ground limestone	.5
Premixes	.5
Total	100.00

VITAMIN FORTIFICATION PER TON (2,000 LBS.) OF FINISHED PRODUCT

Vitamin	Amount	Source
A	22,000,000 IU	Vitamin A
D ₃	3,800,000 IU	D activated animal sterol
K	20 g.	Menadione
dl Alpha-tocopheryl acetate	15 g.	
Choline	700 g.	Choline chloride
Folic acid	1 g.	
Niacin	40 g.	
d Pantothenic acid	25 g.	d-Calcium Pantothenate
Riboflavin supplement	5 g.	
Thiamin	65 g.	Thiamin mononitrate
B ₁₂ supplement	40,000 mcg.	
Pyridoxine	5 g.	Pyridoxine hydrochloride
Biotin	120 mg.	d-Biotin

MINERAL FORTIFICATION PER TON (2,000 LBS.) OF FINISHED PRODUCT

Mineral	Amount	Source
Cobalt	400 mg.	Cobalt carbonate
Copper	4 g.	Copper sulfate
Iron	60 g.	Iron sulfate
Magnesium	400 g.	Magnesium oxide
Manganese	100 g.	Manganese oxide
Zinc	10 g.	Zinc oxide
Iodine	1500 mg.	Calcium iodate

These concentrations of vitamins and minerals shall be added to the ration via two separate (vitamin and mineral) premixes. The final formulation may be adjusted so the total amount of ingredients will equal 100%. In the case of the mineral fortification, the actual amount of each element required is specified. Therefore, the contractor shall adjust the amount of each compound used in the premix according to its mineral concentration.

NUTRIENT STANDARDS

Micro Analysis - The total calculated concentrations of nutrients in the ration from ingredients and from the fortifications at the time of manufacture should be as follows:

Component	Measurement	Requirement	Amount
Crude protein	%	Minimum	18.0
Crude fat	%	Minimum	4.0
Crude fiber	%	Maximum	5.0
Ash	%	Maximum	8.0

Amino Acids (% of total diet)	Minimum
Arginine	.90
Lysine	.85
Methionine	.35
Cystine	.25
Tryptophan	.20
Glycine	.95
Histidine	.38
Leucine	1.40
Isoleucine	.95
Phenylalanine	.85
Tyrosine	.60
Threonine	.65
Valine	.90

Minerals	Measurement	Requirement	Amount
Calcium	%	Minimum	1.15

Minerals	Measurement	Requirement	Amount
Phosphorous	%	Minimum	.85
Potassium	%	Minimum	.75
Sodium	%	Minimum	.30
Magnesium	%	Minimum	.15
Iron	PPM	Minimum	345.00
Zinc	PPM	Minimum	40.00
Manganese	PPM	Minimum	140.00
Copper	PPM	Minimum	12.00
Cobalt	PPM	Minimum	0.70
Iodine	PPM	Minimum	1.80

Vitamins	Measurement	Requirement	Amount
Vitamin A	IU/g	Minimum	20.0 (10) ¹
Vitamin D	IU/g	Minimum	4.0
Alpha-tocopherol	PPM	Minimum	45.0
Thiamin	PPM	Minimum	70.0
Riboflavin	PPM	Minimum	7.0
Niacin	PPM	Minimum	80.0
Pantothenic Acid	PPM	Minimum	30.0
Choline	PPM	Minimum	1900.0
Pyridoxine	PPM	Minimum	10.0
Folic Acid	PPM	Minimum	2.0
Biotin	PPM	Minimum	.2
Vitamin B ₁₂	mcg/kg	Minimum	40.0
Vitamin K	PPM	Minimum	20.0

¹ True Vitamin A activity by HPLC method